

ABSTRACT OF THE DISCLOSURE

[0046] A planar antenna that facilitates directional communication to a mesh network. The antenna is housed in a relatively small, planar package that can easily be attached to a window pane to enable the antenna to communicate with a neighboring rooftop mounted node of the mesh network. The package contains an M by N element phased array, where M and N are integers greater than one. The array is driven by microwave signals supplied from a P-angle phase shifting circuit, where P is an integer greater than one. Thus, the antenna synthesizes a single main beam and the antenna's main beam can be electrically "pointed" in one of P directions. In one embodiment of the invention, the array comprises 40 physical elements (8 X 5 elements) and has three selectable directions (i.e., the phase shifters provide +90, 0 and -90 degree shifts that move the beam left 45 degrees, center and right 45 degrees).